

Lower Duwamish Waterway (LDW) Tribes, Trustees, and Community Groups (TTC) Meeting Agenda

March 8, 2016 | 1:00 PM to 3:00 PM

Puget Sound Regional Council | 1011 Western Ave, Suite 500, Seattle, WA 98104

Draft v.3-1-17

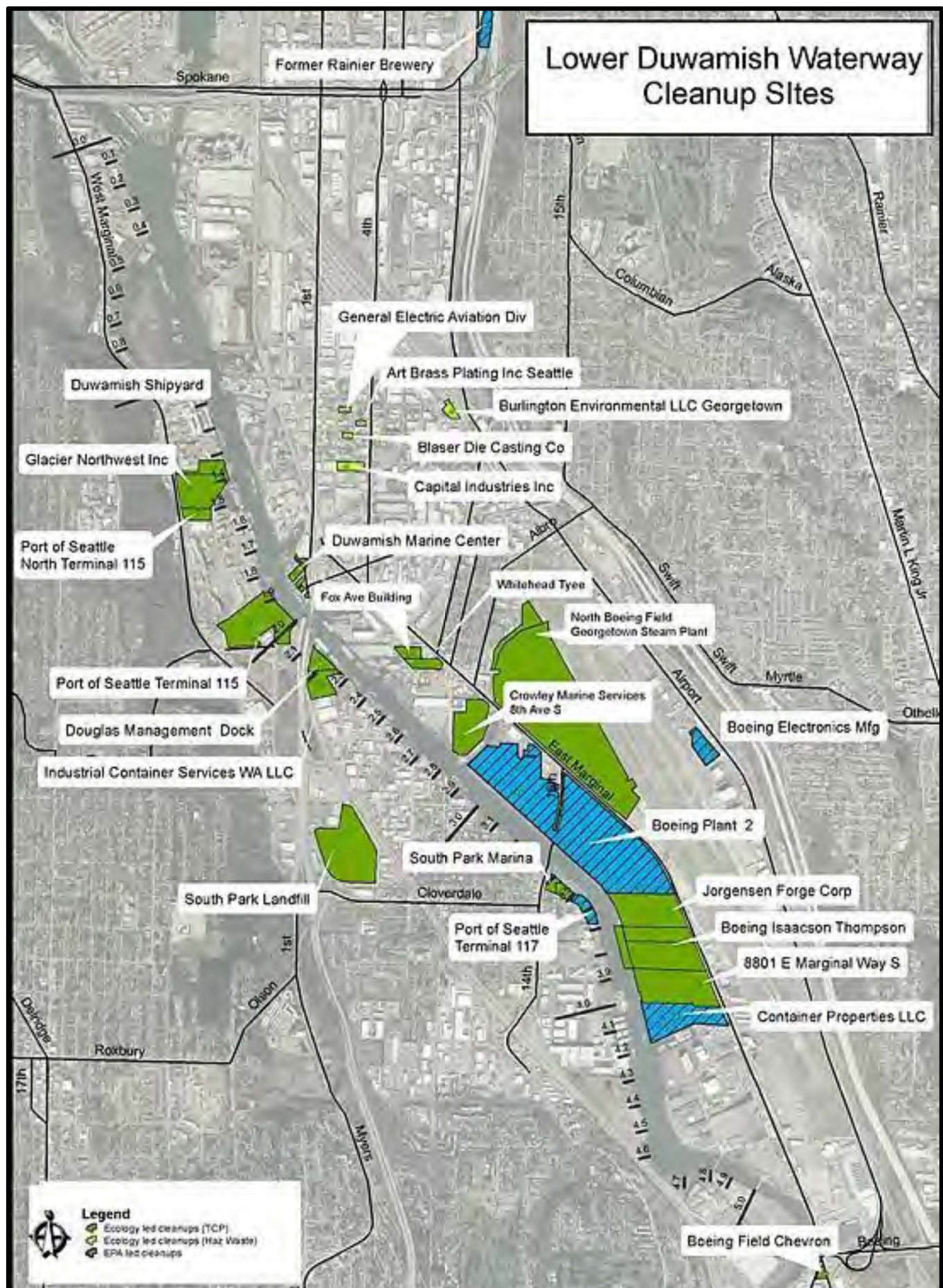
Meeting Purpose: Discuss technical updates and information regarding the cleanup of the Lower Duwamish Waterway (see the Lower Duwamish Waterway map on the [back of the agenda](#) for more details on this site).

Call-in Option: Dial (b) (6) and enter the conference ID (b) (6)

Other Considerations: The meeting space is accessible to persons with disabilities. Please contact Sophie Glass if interpretation services are needed (sglass@triangleassociates.com or 206-583-0655).

Time	Item	Materials (if any)
1:00 PM 10"	A. Welcome and Introductions <ol style="list-style-type: none">Brief participant introductionsReview of agendaReview draft facilitator's summary of 11/9/16 TTC meeting	Draft facilitator's summary of 11/9/16 TTC Meeting
1:10 PM 5"	B. Review of EPA, Ecology, and DRCC/TAG Roles	
1:15 PM 35"	C. Discussion of EPA's Superfund Cleanup of the LDW <ol style="list-style-type: none">Climate change workshopCarbon Amendment Pilot StudyFishers Study and next steps (Consortium)RARE Arsenic StudyEarly Action Areas2017 Sampling PlansLDW User Survey and Assessment of In-Water Structures Task	Fishers Study Fact Sheet Full Fishers Study Report (web link) Summary of LDWG Sampling Work Plan
1:50 PM 10"	D. Discussion of EPA's Superfund Community Involvement Efforts <ol style="list-style-type: none">LDW Roundtable Organizing Committee update2017 Community Involvement Activities	2017 Community Involvement Activities (handed out at meeting)
2:00 PM 40"	E. Discussion of Source Control Updates <ol style="list-style-type: none">Ecology Upland Cleanup SitesEPA Upland Cleanup SitesWater Quality Updates	Ecology LDW Sites Update – Jan. 2017
2:40 PM 10"	F. Discussion of Duwamish River Cleanup Coalition/Technical Advisory Group (DRCC/TAG) Updates <ol style="list-style-type: none">New DRCC/TAG staffDuwamish River FestivalDuwamish AliveCommunity Advisory Team	
2:50 PM 10"	G. Next Steps and Wrap-up <ol style="list-style-type: none">Comment Cards	
3:00 PM	H. Adjourn	

Next LDW Tribes, Trustees and Community Groups (TTC) Meetings (PM): June 14, 2017; September 13, 2017; November 8, 2017



Lower Duwamish Waterway Tribes, Trustees, and Community Groups (TTC) 11/9/2016 Meeting
Federal Building | 915 Second Avenue, Seattle, WA 98104
 Draft Summary v2/14/17

Action	Who?	Status
Send out a schedule of deliverables for pre-design studies under the Administrative Order on Consent (AOC) Amendment #3.	Elly Hale	Complete
Contact Michael Cox if interested in participating in the climate change workshop steering committee.	All TTC members	Ongoing
Solicit feedback from the TTC regarding the list of interviewees for the Lower Duwamish Waterway (LDW) Roundtable Organizing Committee.	Triangle	Complete
Follow up with Ron Timm regarding having an archeologist on site during construction on the Seattle Iron & Metals site.	Rick Thomas	Complete ¹
Ensure King County Industrial Waste and Ecology cleanup program is aware of concerns related to pre-treatment issues and pollutants from the Industrial Container Services site.	Rachel McCreia	Complete ²
Ensure appropriate regulatory agencies are aware of concerns related to possible digging trenches on the United Site Services site.	Ecology	Complete ³

WELCOME AND INTRODUCTIONS

Bob Wheeler, Triangle Associates Inc., led a round of introductions of participants (see Attachment A) and explained that the purpose of the TTC meeting was to discuss in greater detail the presentations during the morning's LDW Stakeholders meeting.

DISCUSSION OF EPA'S SUPERFUND CLEANUP OF THE LDW

TTC members discussed EPA's updates provided at the morning's LDW Stakeholders meeting:

- **ROD Implementation:** EPA is working on a schedule of deliverables under AOC amendment #3 (pre-design studies).
- **Carbon Amendment Pilot Study:** EPA is planning a visitor's day to allow invited groups/individuals to observe the construction for the Carbon Amendment Pilot Study. In response to concerns expressed by the Muckleshoot Tribe, EPA will avoid using measurement stakes that could catch on fishing nets.
- **Climate Change Workshop:** EPA is planning a climate change workshop to be held potentially in March 2017. At the workshop participants will hear about the latest climate science for this area, exchange information about their adaptation efforts, and consider how to factor these changes into the design of the cleanup and source control work for resilience and long-term effectiveness.
- **Fishers Study:** EPA noted that the draft Fishers Study was circulated for comment. Some TTC members emphasized the importance of incorporating EPA's *Environmental Justice 2020* into the development of "appropriate and effective institutional controls."
- **Early Action Areas and EPA upland cleanups:** TTC members inquired about the Rhone-Poulenc site:
 - Rhone-Poulenc - In the west parcel, EPA is leading a pilot study on CO2 injection for lowering pH in soil and groundwater. In March 2017, EPA is aiming to conduct site-wide groundwater monitoring to determine current conditions for moving toward a Corrective Measures Study (CMS). EPA also reported that toluene contamination levels have decreased on the site.

¹ Mr. Timm has relayed Mr. Workman's concerns to the responsible party. The archeological plan for the site needs to be reviewed and approved by the Department of Archeological and Historical Preservation before work begins at the site.

² Appropriate regulatory authorities are investigating.

³ City responded to digging complaint; facility has Industrial Stormwater General Permit (ISGP) coverage so it will be folded into Ecology's routine permit administration work.

- **LDW User Survey:** Though EPA conveyed earlier comments from TTC members, LDWG is not planning to survey kayakers, as the survey focus is on uses that disturb the sediment enough to warrant adjusting recovery categories. Some TTC members noted that kayakers may disturb sediments during low tides and where they get in and out of their boats. Some TTC members suggested that these areas might be good candidates for caps as opposed to enhanced natural recovery layers.

TTC members also discussed the following:

- **Washing Stations:** The Duwamish Waterway Park, Terminal 107, and Herring's House Park do not have places to wash off sediments from people or pets. In the past, DRCC/TAG has asked the City of Seattle to provide public access to existing water spigots at Duwamish Waterway Park and T-107. The Department of Ecology commented that the wash water is considered a waste water and would not be allowed to be discharged into the river under the applicable provisions of the City of Seattle's municipal stormwater National Pollutant Discharge Elimination System (NPDES) permit. The preferred disposal of such wash water is to the sanitary sewer. Ecology suggested DRCC/TAG refer to this need as a "washing station" not merely access to a water spigot.⁴
- **Duwamish Tribal Heritage:** As the LDW cleanup continues, Duwamish Tribal Councilmember Workman reminded TTC members that areas along the Duwamish River were used as burial sites for Tribal members, and that they are in the trees that grow there now. There is only one stretch along the river where trees remain, and that area is sacred to the Duwamish Tribe.
- **Climate Change Concerns:** Flooding and related health risks will impact people living near the Superfund site, many of whom are people of color and people with lower incomes. Front and Centered was noted as a nonprofit that brings together communities of color to prioritize equity and justice in the climate change movement. The Duwamish Longhouse, located on the banks of the Duwamish River, is at risk of flooding due to rising tides. Changes in extent of salt wedge, habitat inundation, increased river flow, or changes may impact species that live in the Duwamish River.

DISCUSSION OF EPA'S SUPERFUND COMMUNITY INVOLVEMENT EFFORTS

TTC members discussed the Organizing Committee being formed to plan the Lower Duwamish Roundtable. EPA identified potential members of the Organizing Committee, but is also looking for volunteers. EPA will circulate to the TTC the list of potential members whom Triangle will interview to inform the creation of the Organizing Committee.

DISCUSSION OF SOURCE CONTROL UPDATES

TTC members discussed Ecology's updates provided at the morning's LDW Stakeholders meeting.

- **DeNovo:** DeNovo completed their Remedial Investigation (RI). Ecology is investigating potential Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) in the soil and groundwater (~35 feet deep) under the site. Waste Management Inc. (a tenant on this site) is refining their operations, accepting materials by truck, and repairing the piers. DRCC/TAG visited Waste Management Inc. and reported there were some significant improvements in their facilities, but there are still some concerns regarding the handling of waste.
- **PCB Congener Study:** Ecology is continuing studies to evaluate PCB sources and distribution. This work will include sampling for PCBs in groundwater.
- **South Park Landfill:** Ecology is working with the City of Seattle and South Park Property Development to finalize a Consent Decree to clean up the portion of the South Park Landfill site.

⁴ After the meeting, Rachel McCrea spoke with Michelle Benetua of the Seattle Parks Foundation to discuss the potential wash station and put designers of the Duwamish Waterway Park improvements in contact with a Seattle Public Utilities representative for technical assistance in designing an acceptable solution to the public health washing need.

The public will be invited to comment when this agreement is ready for review, anticipated in January 2017.

- **Whitehead Tyee (Seattle Iron & Metals/730 Myrtle, LLC):** Cleanup started under the Voluntary Cleanup Program, but now the site has been moved into the formal process for cleanup under the Model Toxics Cleanup Act (MTCA). In August 2016, Ecology entered into an Agreed Order (AO) with Seattle Iron & Metals Corporation and 730 Myrtle LLC. Under a water quality permit, Seattle Iron & Metals is required to install a stormwater treatment system to improve the water quality leaving the property. Before that system can be installed, Ecology is requiring them to conduct an Interim Action to cleanup potentially contaminated soil and/or groundwater where the stormwater system will be installed. Duwamish Councilmember Workman shared that this site was previously the [King County Hospital](#) Cemetery. As such, concern was expressed that the construction of the stormwater treatment system might impact tribal artifacts. Rick Thomas will contact Ron Timm regarding having an archeologist on site during construction.⁵
- **Ardagh Glass:** The Puget Sound Clean Air Agency did an emissions test of Ardagh Glass in 2014 and wanted Ardagh to install new technology in one of its furnaces. Ardagh appealed this and there was a hearing in October 2016. Ardagh Glass' property is owned by King County.
- **Industrial Container Services (ICS):** Some TTC members expressed concern regarding the environmental and odor impacts of cleaning out the furnaces.⁶
- **United Site Services:** South Park residents saw workers digging a trench near United Site Services, which is a provider of portable restroom and sanitation services. This caused concern since any leakages from the portable restrooms might flow into the Duwamish River. James Rasmussen immediately called Bob Wright to report this information.⁷

DUWAMISH RIVER CLEANUP COALITION/TECHNICAL ADVISORY GROUP UPDATES

DRCC/TAG elaborated on the updates provided during the morning LDW Stakeholders meeting and added the following:

- Low income communities and communities of color are affected by contamination more than other communities. In order to remain in compliance with Title VI of the Civil Rights Act, it's important that EPA and ECY address the needs of vulnerable residents impacted by LDW contamination and cleanup.
- DRCC/TAG requested EPA and Ecology's support to get back full funding from the Model Toxics Control Act (MTCA) for Public Participation Grants.

⁵ Mr. Timm has relayed Mr. Workman's concerns to the responsible party. The archeological plan for the site needs to be reviewed and approved by the Department of Archeological and Historical Preservation before work begins at the site.

⁶ Appropriate regulatory authorities are investigating.

⁷ The City of Seattle responded to digging complaint; facility has Industrial Stormwater General Permit (ISGP) coverage so it will be folded into Ecology's routine permit administration work.

ATTACHMENT A: MEETING PARTICIPANTS

Name	Affiliation
Rhonda Kaetzel	Agency for Toxic Substances and Disease Registry
Kristen Kerns	Army Corps of Engineers
Hannah Kett	Duwamish River Cleanup Coalition/Technical Advisory Group
James Rasmussen	Duwamish River Cleanup Coalition/Technical Advisory Group
Ken Workman	Duwamish Tribe
Sophia Ressler	Puget Soundkeeper Alliance
Alison Hiltner	US Environmental Protection Agency
Elly Hale	US Environmental Protection Agency
Janette Knittel	US Environmental Protection Agency
Julie Congdon	US Environmental Protection Agency
Michael Cox	US Environmental Protection Agency
Nick Vidargas	US Environmental Protection Agency
Amy White	WA Department of Ecology
Bo Li	WA Department of Ecology
Rachel McCrea	WA Department of Ecology
Rick Thomas	WA Department of Ecology
Dave McBride	WA Department of Health
Rein Attemann	Washington Environmental Council

Facilitators

Bob Wheeler	Triangle Associates
Sophie Glass	Triangle Associates

Fishing in the Duwamish River

What did we learn and what do we do next?

February 2017

Fish Consumption Advisory

Fish are nutritious and good for your health. Many people enjoy fishing on the Duwamish River.

Unfortunately, the river has harmful chemicals, such as PCBs, that can cause health problems in humans. You cannot see these chemicals in the fish. They get into fish, shellfish and crab that spend their entire lives in the river ("resident fish").

The Washington State Department of Health recommends salmon as the healthiest choice to eat because they spend a short time in the river.

Environmental Justice Issue

Many fishers continue to catch and eat resident fish. Over 20 ethnic groups fish in the Duwamish River. The pollution in the river likely has more impacts on communities of color and low-income people.



Fishing for the Safest Seafood from the Duwamish River? Eat Salmon!

SAFE TO EAT
2-3 MEALS per week

Chum
Coho
Pink
Sockeye

OR

LIMIT
1 MEAL per week

Chinook (King)

OR

CAUTION
2 MEALS per month

Blackmouth Resident Chinook caught during winter

Meal Size
Adult Child
One meal size is about the size and thickness of your hand.

EVERYONE - DO NOT EAT RESIDENT FISH, SHELLFISH, or CRAB
Especially WOMEN who are or may become PREGNANT, NURSING MOTHERS, and CHILDREN. They have chemicals that can harm the growth and brain development of babies and children.

Crab
Starry flounder
Perch
Clams
Rockfish
Mussels
Sole

For the text of this poster, go to <http://go.usa.gov/x9GXw>
Links to King County website

New Study about the Duwamish Fishing Community

The United States Environmental Protection Agency is working to clean up the pollution from the Duwamish River. As part of the Lower Duwamish Waterway Superfund Cleanup, the City of Seattle, King County, Port of Seattle and The Boeing Company performed the Fishers Study (<http://go.usa.gov/x9Gya>). The study collected information about:

- Who is fishing on the Duwamish River?
- What are they doing with their catch?
- How much do they know about the advisory?
- What are better ways to communicate about the advisory?

Thank you to the fishers and other residents that participated in the study!

Environmental Coalition of South Seattle (ECOSS) collected data for the study (2014-2016):

- 403 surveys with fishers along the river
- 22 in-depth interviews with fishers and people who eat Duwamish seafood

What was learned



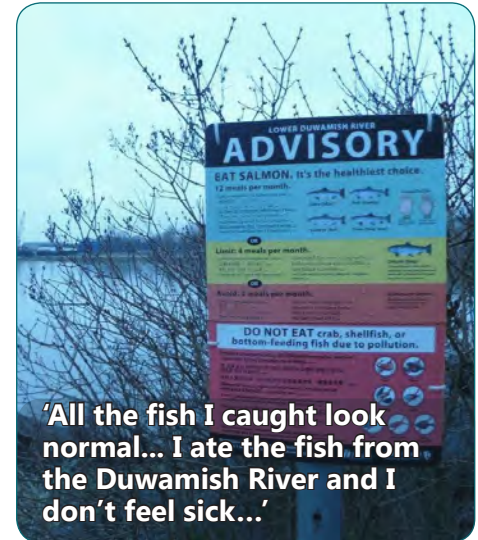
Fishing is good for mental, social and physical health:

- Fun
- Relaxing
- Fresh food
- Socializing
- Learn from each other
- Sense of community



Fishers who eat the polluted “resident fish” are primarily:

- Asian, Pacific Islanders, multiracial
- Non-English speakers (including Vietnamese, Spanish, Khmer)
- Live in South/West Seattle and south of Seattle



The advisory information is hard to understand:

- Signs are not effective in reaching all fishers
- Hard to connect health risks with chemicals that you cannot see in the water or fish
- Need to provide options that encourage people to eat healthier fish, while maintaining their fishing culture

What is next?

The EPA and Public Health Seattle & King County (PHSKC) will establish a community-based program to develop Institutional Controls or “ICs” for the Duwamish fishing community. The program will promote healthy seafood consumption before, during and after the cleanup. With EPA oversight, PHSKC will:

- ▶ Form a work group to help develop the IC plans and recommendations;
- ▶ Provide grants to community partnerships to develop and implement community-focused IC tools and strategies; and
- ▶ Train peer community health advocates to promote healthy fish consumption strategies within their communities.

For more information

US EPA: Rebecca Chu • (206) 553-1774 • chu.rebecca@epa.gov

Public Health Seattle & King County: Sinang Lee • (206) 263-1192 • sinang.lee@kingcounty.gov

WA Department of Health: Fish Advisory Program • (877) 485-7316 • <http://www.doh.wa.gov/fish>

Community Advisory Group: Duwamish River Cleanup Coalition/Technical Advisory Group
• (206) 954-0218 • duwamishcleanup.org

Lower Duwamish Waterway Draft Work Plan

Overview for EPA and LDW
Stakeholders

March 1, 2017

Lower Duwamish Waterway Group
Part of Seattle - City of Seattle - King County - The Puget Sound

Meeting Objectives

- Facilitate EPA/stakeholder review
 - Task 1 draft work plan (slides)
 - Task 7 draft final waterway users work plan (verbal)
- Provide a walk through of key elements
- Focus on key changes in response to comments on outline
- Answer questions identified to date

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Overview

- Work Plan overview
- Sediment
- Tissue
- Porewater
- Surface water
- Seeps
- Data management
- Next steps

Work Plan Overview

- Outline submitted in November provided work plan road map
- Draft work plan includes:
 - scope and approach for all tasks
 - sampling design scope and rationale
 - conceptual site model and enhanced sampling context
 - additional detail regarding sampling and analysis methods, including analytical concentration goals
- Work plan intended to be finalized in May 2017
- QAPPs will provide additional detail on sampling locations, methods, and analytical details

Surface Sediment (0-10 cm) Composite Samples

- DQOs are to establish:
 - baseline site-wide 95UCL concentrations of risk drivers for RAOs 1,2, and 4
 - site-wide SWAC for assessing long-term trends
- Overview:
 - 100 samples will be used to create 20 composite samples of 5 samples each
 - design based on statistical evaluation using current MNR area concentrations as proxy for post-remediation conditions
- Key changes from outline include:
 - more context for the sampling design

Surface Sediment (0-10 cm) - Composites



Surface Sediment (0-10) Individual Samples

- DQOs are to:
 - compare (on a point-by-point basis) concentrations in baseline samples collected from within MNR areas to the (benthic) cleanup levels
 - support the evaluation of long-term trends and natural recovery within MNR areas
- Overview:
 - 20 samples total; 10 samples re-occupy RI/FS locations with SCO exceedance and 10 samples randomly located in MNR areas
- Key changes from outline include:
 - more context for the sampling design

Surface Sediment (0-10) Individual Samples



PCB Assessment

- The DQO is to:
 - assess the relationship between total PCBs based on the sum of detected congeners versus the sum of detected Aroclors in LDW sediments
- Note that all samples that have no detected PCB Aroclors will be analyzed for PCB congeners
- Key changes from outline include:
 - existing data will be evaluated in the sediment QAPP to establish the relationship between total PCB sums
 - archives of the 20 individual 0-10 cm sediment samples collected for benthic evaluation will be kept for potential PCB congener analysis, if warranted

Clamming Area Samples (0-45 cm)

- DQOs are to establish:
 - baseline site-wide 95UCL concentrations in potential clamming areas for RAO 2 risk drivers
 - baseline site-wide mean concentrations to assess long-term trends
- Overview:
 - 3 site-wide composite samples will be created
- Key changes from outline include:
 - 3 samples will be collected at each of the sampling locations
 - a total of 207 sediment samples will be collected from 69 sampling locations to create 3 site-wide composite samples

Clamming Area Samples (0-45 cm)



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Beach Play Samples (0-45 cm)

- DQOs are to establish:
 - 95UCL concentrations in each of the 8 beach areas for RAO 2 risk drivers
 - mean concentrations for each beach to assess long-term trends
- Overview
 - 3 composite samples will be created for each beach area
- Key changes from outline include:
 - for each beach the number of locations was determined based on the area of the beach; the smallest beach contains 3 locations and the largest contains 9 locations
 - 3 samples will be collected at each sampling location
 - a total of 9 to 27 sediment samples will be collected at each beach to create 3 composite samples per beach

¹ Smallest beaches have 3 locations ; largest beaches have 9 locations.

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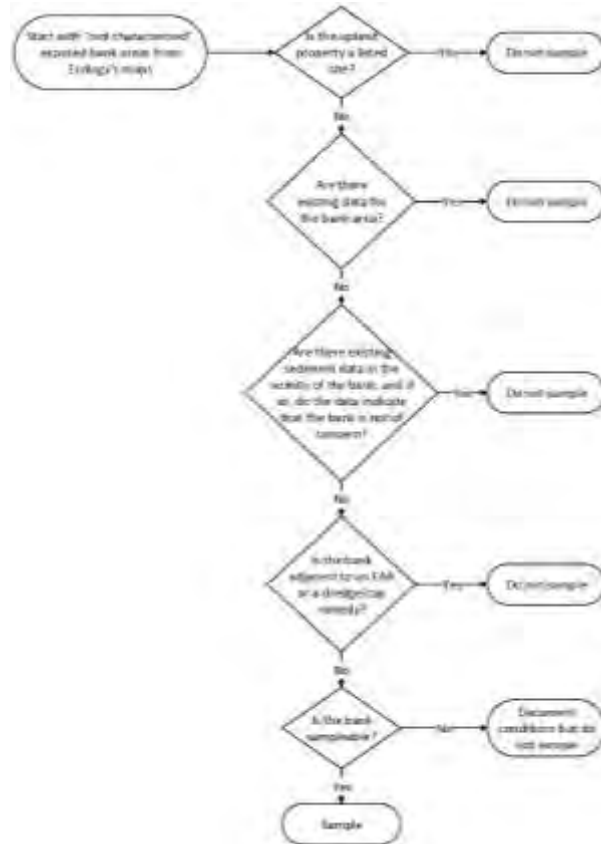
Beach Play (0-45 cm)



Bank Sampling

- Bank samples will be collected:
 - to aid Ecology in source control sufficiency determinations by providing additional LDW data
- Overview:
 - collection of bank samples identified as data gaps in coverage
- Key changes from outline include:
 - addition of a flow chart to identify bank data gaps
 - a reconnaissance survey will be conducted prior to sampling

Bank Sampling



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Bank Sampling

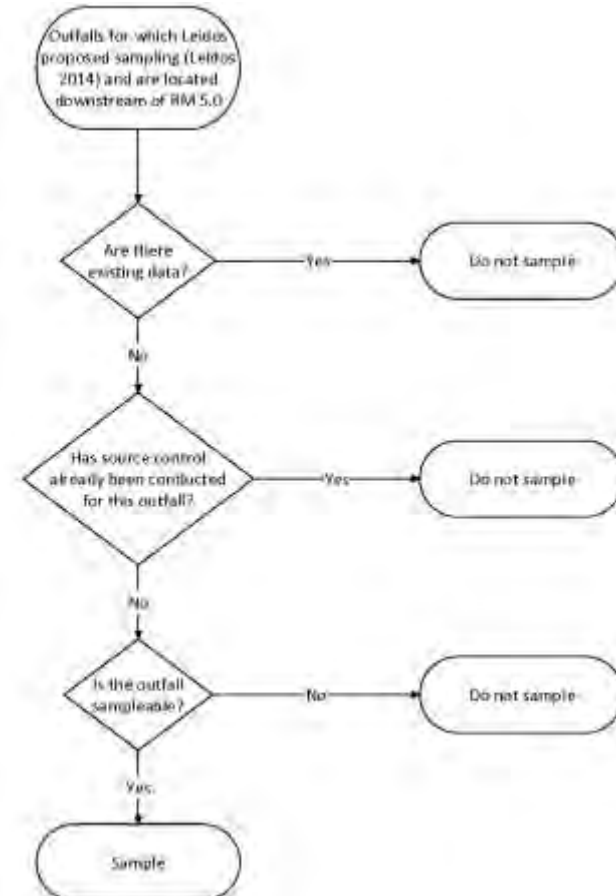


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Sediment sampling near outfalls

- Sediment samples near outfalls will be collected:
 - to aid Ecology in source control sufficiency determinations by providing additional LDW data
- Overview:
 - collection of sediment samples near outfalls identified as data gaps in coverage
- Key changes from outline include:
 - addition of a flow chart to identify sampling locations
 - sediment QAPP will provide specific sampling locations near outfalls

Sediment Sampling Near Outfalls



Fish and Crab Tissue

- DQOs are to establish:
 - baseline site-wide 95UCL concentrations of risk drivers for comparison to target tissue levels (TTLs) for RAO 1
 - baseline site-wide mean concentrations to assess trends following sediment remediation for contaminants with TTLs
- Overview:
 - collection of 12 composite samples of English sole and Dungeness crab (6 in each of two reaches) and 12 composite samples of shiner surfperch (4 in each of 4 subreaches)
- Key changes from outline include:
 - collection of shiners in 4 subreaches vs. 2 reaches
 - pesticide analysis added, cPAHs deleted for fish
 - total number of composite samples for each tissue type from 16 to 12
- Schedule considerations:
 - need EPA approval of overall conceptual design by March 22 at the latest to sample this summer

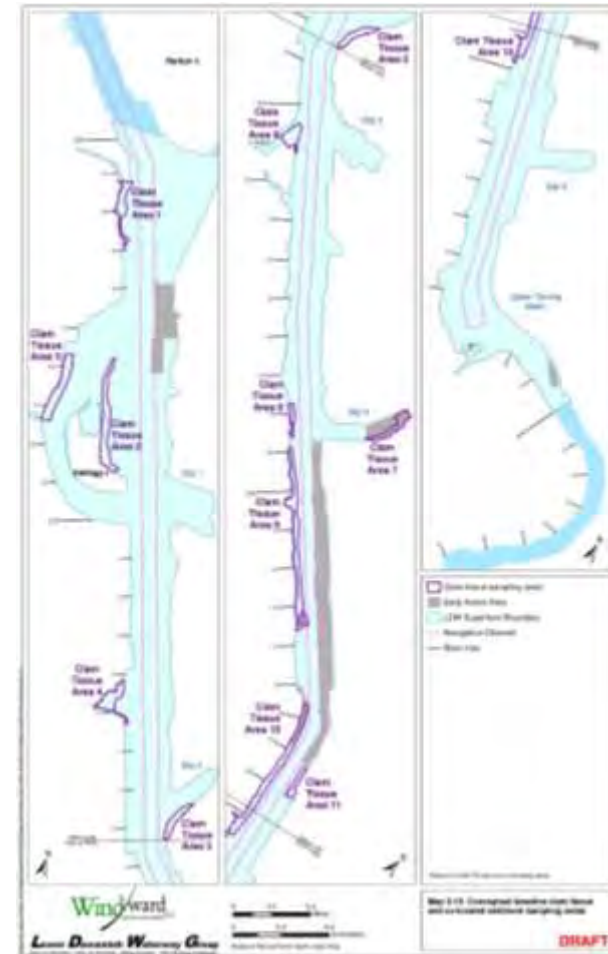
Fish and crab (sub)reaches



Clam Tissue

- DQOs are to establish:
 - baseline site-wide 95UCL concentrations of risk drivers for comparison to TTLs for RAO 1
 - baseline site-wide mean clam tissue concentrations to assess trends following sediment remediation for contaminants with TTLs
- Overview:
 - collection of 11 clam composites; one from each of 11 RI clam collection areas
- Key changes from outline include:
 - added siphon skin analysis for total and inorganic arsenic
 - added pesticide analysis
 - deleted co-located sediment (need will be assessed in porewater addendum)

Clam Tissue Collection



Porewater

- Deferred to addendum to be submitted on April 7, 2017
- Addendum will systematically:
 - present DQOs in light of key questions
 - determine the need for pre-design porewater data based on data needs, data being collected for other studies, and timing
 - if additional data needs are identified, a porewater QAPP will be prepared

Surface water

- DQOs are to:
 - assess progress toward water quality applicable or relevant and appropriate requirements (ARARs) following sediment remediation and continued source control
 - establish baseline conditions for long-term monitoring
- Overview:
 - collection of grab samples from 6 events, 3 LDW locations and 1 upstream location, and 2 depths
- Key changes from outline include:
 - sample during various river conditions; 2 dry baseflow; 2 wet baseflow; and 2 storm conditions (with different dam releases)
 - design based on flow conditions and estuarine circulation
 - VOCs will not be analyzed
 - analyte list to be re-assessed after first 2 sampling events
- Schedule considerations:
 - need EPA approval of overall conceptual design by April 4 at the latest to sample this September

Surface Water Collection



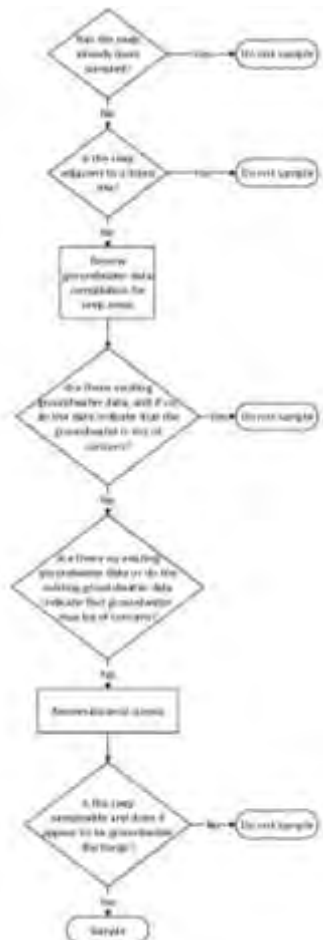
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Seeps

- Seep samples will be collected to:
 - aid Ecology in source control sufficiency determinations by providing additional LDW data
 - provide seep data in areas where groundwater may be a significant ongoing source of contamination as well as areas where existing groundwater data are insufficient
- Overview:
 - sample collection at seeps identified as data gaps in coverage or analytes
- Key changes from outline include:
 - addition of a flow chart to identify seep data gaps
 - reconnaissance survey just before sampling to document, stake, and assess seeps

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Seep Data Gaps (NEW)



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Data Management Plan

- Outlines plan to merge RI/FS and Task 2 datasets
- Provides data rules, which are consistent with the RI/FS with the following exceptions:
 - RI/FS dataset included trumping which allowed newer data to replace older data for a location; no trumping will be conducted in the pre-design studies dataset
 - Results for parent samples and field replicates will be included in the database; for mapping, the parent sample result will be selected

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Next Steps

- Schedule
 - Draft work plan comments from EPA (March 23; from stakeholders on March 13)
 - Draft PW addendum (April 7)
 - Sampling design approvals
 - Fish and crab (March 22)
 - Surface water (April 4)
- Communication

Lower Duwamish Cleanup Sites Update



Photo by John Monnat.

CONTACTS & INFORMATION

Public Involvement

Coordinator:

Amy White

Amelia.White@ecy.wa.gov

425-649-7052

For more information about site cleanups and source control, visit our website:

http://www.ecy.wa.gov/programs/tcp/sites_brochure/lower_duwamish/lower_duwamish_hp.html

Join our email list for regular updates!

<https://listserv.wa.gov/cgi-bin/wa?A0=DUWAMISH-RIVER-UPDATES>

FSID # 42927743

CSID # 1643

Cleaning up contaminated sites to reduce pollution of the Lower Duwamish Waterway

Ecology is leading the effort to clean up sources of contamination from the land area surrounding the Lower Duwamish Waterway (LDW) Superfund Site.

This is part of our commitment to source control – finding the sources and extent of contamination, then taking actions to stop or reduce them before they reach the LDW (river). We must control these sources of pollution sufficiently before EPA can start their cleanup of the river sediments.

Cleaning up contaminated sites is a key part of source control. Source control also includes a variety of other actions, such as business inspections, site investigation and cleanup, controlling stormwater runoff, coordination between agencies, and education.

Contaminants in the soil and groundwater in the land area around the river pose a risk to human health and the environment. They can find their way into the river through groundwater discharges, storm runoff, erosion and other pathways.

Source control is crucial to the success of EPA's in-waterway cleanup. The long-term goal is to minimize recontamination of the river sediment and restore water quality in the river.

We are making progress!

Ecology is actively managing 21 sites through our formal cleanup process. Our Toxics Cleanup Program is responsible for 16 formal cleanup sites, and we plan to add several more to the list soon. Our Hazardous Waste and Toxics Reduction Program is responsible for 5 sites. Many other sites are being cleaned up under our Voluntary Cleanup Program.

This information sheet focuses on cleanup sites managed by Ecology's Toxics Cleanup Program.



2016 Source Control Strategy:

To read Ecology's Source Control Strategy, visit:

<https://fortress.wa.gov/ecy/gsp/DocViewer.ashx?did=56204>

Special accommodations:

To request ADA accommodation for disabilities, or printed materials in a format for the visually impaired, call Ecology at 360-407-7668 or visit <http://www.ecy.wa.gov/accessibility.html>.

Persons with impaired hearing may call Washington Relay Service at 711.

Persons with speech disability may call TTY at 877-833-6341.

Document review locations:

**Seattle Public Library,
South Park Branch**

8604 Eighth Ave. S
Seattle, WA 98108

Phone: 206-615-1688

Hours: Mon-Tue, 1pm-8pm
Wed-Sat, 11am-6pm
Sun, 1pm-5pm

Ecology NW Regional Office

3190 160th Ave SE
Bellevue, WA 98008

Please call for appointment.

Phone: 425-649-7190

Hours: Mon-Fri, 8am-5pm

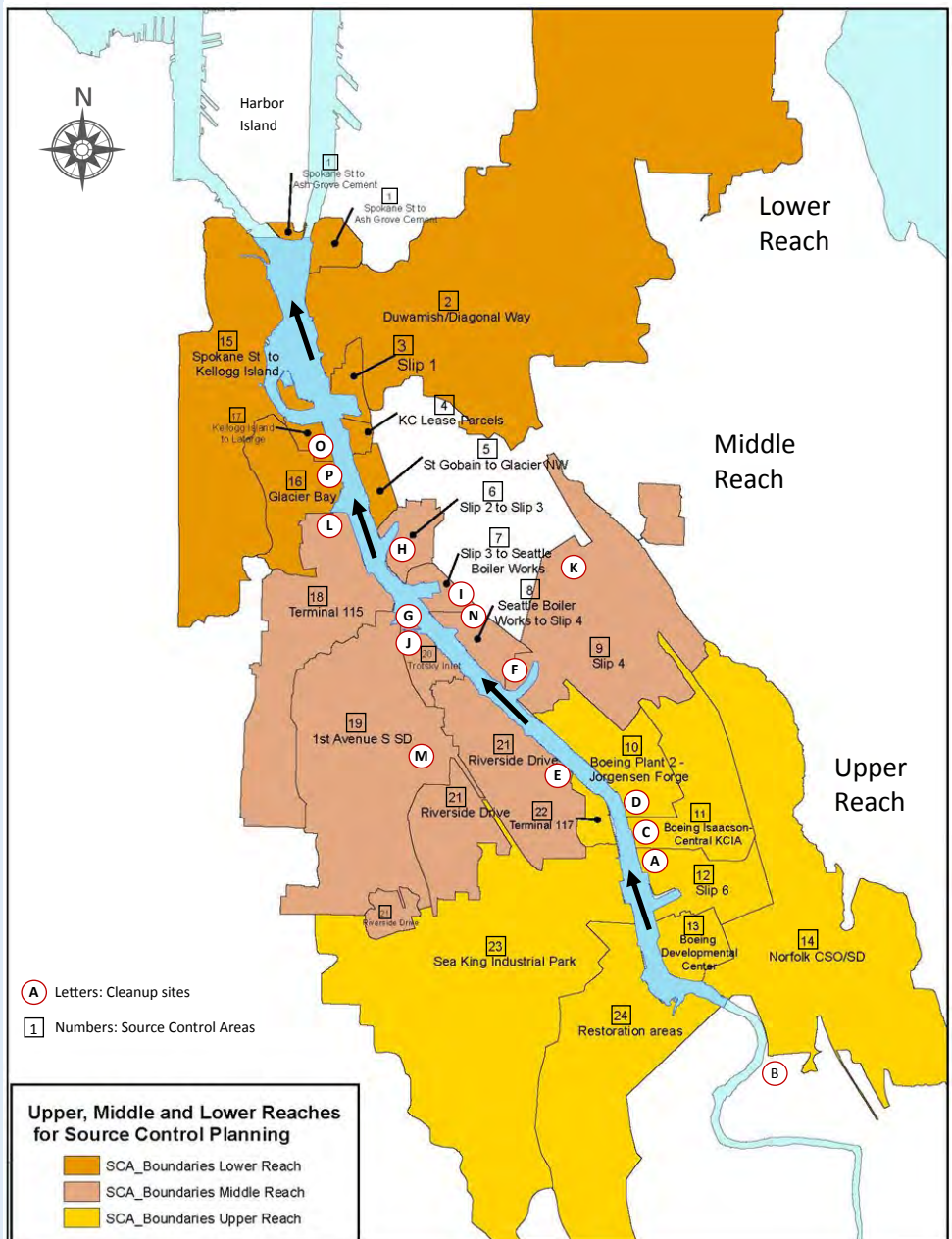
Source control proceeds from upstream to downstream

Ecology has determined the most efficient way to manage site cleanups for source control is an upstream to downstream approach. This reduces the problem of contamination from an upstream site moving into a downstream site that has already been cleaned up.

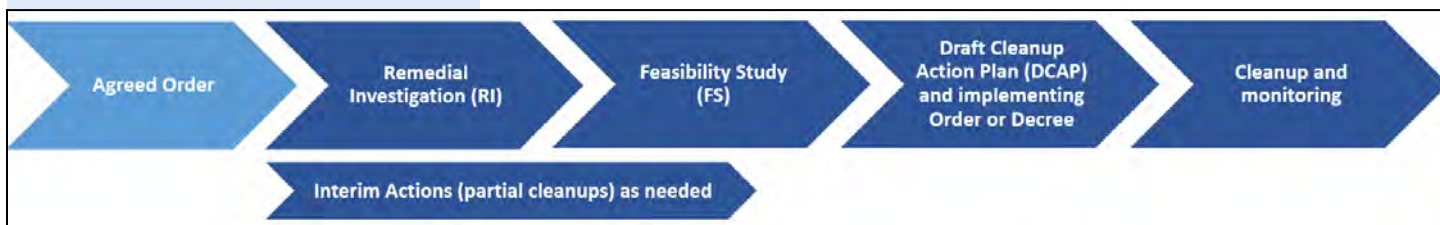
The land area around the river is divided into 24 Source Control Areas (SCAs) based on storm drainage. Contaminated sites are located within these areas.

The SCAs are grouped into Upper, Middle, and Lower Reaches. The river flows northward, so the Upper Reach (upstream) starts in Tukwila, and the Lower Reach (downstream) ends at the southern tip of Harbor Island.

While Ecology will prioritize site cleanups in the Upper Reach, we will continue to move forward with our work in the Middle and Lower Reaches.



The Cleanup Process



	Site Name	Agreed Order	Remedial Investigation	Feasibility Study	Cleanup Action Plan	Cleanup	Interim Action
UPPER	Ⓐ 8801 East Marginal Way S	2006, 2008	2011	In progress	In development		
	Ⓑ Boeing Field Chevron	2015	In progress				
	Ⓒ Boeing Isaacson Thompson	2010	2014	In progress			
	Ⓓ Jorgensen Forge	2007, 2015*	In progress				2014
	Ⓔ South Park Marina	Likely 2017					
MIDDLE	Ⓕ Crowley (8 th Avenue)	2009	In progress				
	Ⓖ Douglas Management	2011	In progress				
	Ⓗ Duwamish Marine Center	2011	In progress				
	Ⓘ Fox Avenue Building	1991, 2009	2011	2012	Agreed Order 2012	In progress	2009
	Ⓙ Industrial Container	2011	In progress				
	Ⓚ N Boeing Field/GT Steam Plant	2008	In progress				2011
	Ⓛ N Terminal 115	2011	In progress				
	Ⓜ South Park Landfill	2009	In progress	In progress	In development		2014, 2016
LOWER	Ⓝ Whitehead Tyee	2016	Workplan in development				Workplan in development
	Ⓟ Duwamish Shipyard	2010	In progress				
	Ⓟ Glacier Northwest	2009	In progress				

* Enforcement Order



UPPER REACH



8801 E Marginal Way S, Tukwila

8801 East Marginal Way S

Agreed Order: 2006 (sediment), 2008 (upland)

Status: **Draft Feasibility Study and Cleanup Action Plan** under review.

Previous uses: **Truck manufacturing.**

Current uses: **Auction of damaged vehicles.**

Contaminants of concern: **Polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), phenols, phthalates, oil, metals.**



10805 E Marginal Way S, Tukwila

Boeing Field Chevron

Agreed Order: 2015

Status: **Remedial Investigation** underway.

Previous uses: **Service station with underground storage of gasoline.**

Current uses: **Service station with underground storage of gasoline.**

Contaminants of concern: **VOCs, oil.**



8701 E Marginal Way S, Tukwila

Boeing Isaacson Thompson

Agreed Order: 2010

Status: **Feasibility Study** underway.

Previous uses: **Aircraft manufacturing**

Current uses: **Aircraft manufacturing**

Contaminants of concern: **PCBs, PAHs, VOCs, furans, phthalates, oil, metals.**



8531 E Marginal Way S, Seattle

Jorgensen Forge

Agreed Order: 2007

Enforcement Order: 2015

Status: **Remedial Investigation** underway.

Previous uses: **Fabrication of structural steel, tractor and road equipment; manufacturing of Navy vessels; steel distribution.**

Current uses: **Fabricating specialized large-scale metal parts.**

Contaminants of concern: **PCBs, VOCs, oil, metals.**

Interim Action: **Removed contaminated soil from an access road area.**





8604 Dallas Avenue S, Seattle

South Park Marina

Agreed Order: **Expected 2017**

Status: **Agreed Order negotiations underway.**

Previous uses: **Resort and marina; drum reconditioning—cleaning and recycling of used storage drums, some of which may have contained hazardous wastes.**

Current uses: **Marina with boat storage and repair.**

Contaminants of concern: **PCBs, PAHs, VOCs, dioxins, furans, phthalates, pesticides, oil, metals.**

MIDDLE REACH



7400 8th Avenue S, Seattle

Crowley Marine Services

Agreed Order: **2009**

Status: **Draft Remedial Investigation Report under review.**

Previous uses: **Manufacturing of pipe, chain, hydraulic equipment, and concrete; machinery and scrap iron storage; sawmill, lumber distribution, creosote treatment.**

Current uses: **Transloading—loading contaminated soils and dredge sediments from trucks and barges onto rail cars.**

Contaminants of concern: **PAHs, metals.**



7100 1st Avenue S, Seattle

Douglas Management Dock

Agreed Order: **2009**

Status: **Draft Remedial Investigation Report under review.**

Previous uses: **Sand and gravel batch plant; school bus parking and maintenance.**

Current uses: **Storage of equipment and shipping containers.**

Contaminants of concern: **PCBs, oil, metals.**



6365 1st Avenue S, Seattle

Duwamish Marine Center

Agreed Order: **2011**

Status: **Remedial Investigation underway.**

Previous uses: **Shipyard—repair and maintenance of floating vessels; junk dealer; construction services; barge shipping terminal.**

Current uses: **Tug and barge operations; metal fabrication.**

Contaminants of concern: **PCBs, PAHs, oil, metals.**





6900 Fox Avenue S, Seattle

Fox Avenue Building

Agreed Order: 1991 & 2009 (investigation), 2012 (cleanup)

Status: Majority of cleanup complete.

Previous uses: Chain manufacturing; chemical and petroleum repackaging and distribution.

Current uses: Chemical distribution.

Contaminants of concern: VOCs, dioxins, furans, oil.

Interim Actions: Biotreatment to reduce contamination in groundwater.



7152 1st Avenue S, Seattle

Industrial Container Services

Agreed Order: 2010

Status: Draft Remedial Investigation Report under review.

Previous uses: Drum reconditioning—cleaning and recycling of used storage drums, some of which may have contained hazardous wastes.

Current uses: Drum reconditioning.

Contaminants of concern: PCBs, PAHs, VOCs, pesticides, oil, metals.



7370 E Marginal Way S, Seattle

North Boeing Field—Georgetown Steam Plant

Agreed Order: 2008

Status: Draft Remedial Investigation Report in revision.

Previous uses: Electrical power generation; aircraft manufacturing, maintenance, and research.

Current uses: Aircraft manufacturing and research; museum.

Contaminants of concern: PCBs, PAHs, oil, VOCs, semi-volatile organic compounds (SVOCs), jet fuel, metals.

Interim Actions: Contaminated soil removed around Georgetown Steam Plant, some other areas capped. Contaminated soil removed around fenceline and adjacent to the Georgetown Steam Plant fuel tank area.



8200 2nd Avenue S, Seattle

North Terminal 115

Agreed Order: 2011

Status: Remedial Investigation underway.

Previous uses: Tin reclamation.

Current uses: Lumber distribution; vehicle storage.

Contaminants of concern: PAHs, SVOCs, oil, metals.





6000 W Marginal Way SW, Seattle

South Park Landfill

Agreed Order: 2009

Status: Remedial Investigation/Feasibility Study, Draft Cleanup Action Plan, and Partial Consent Decree to be finalized in 2017.

Previous uses: Landfill; auto wrecking yard.

Current uses: Solid waste transfer station; school bus parking.

Contaminants of concern: VOCs, landfill gas, oil, metals.

Interim Actions: Landfill capped and systems installed for monitoring and control of landfill gas and surface water.



730 S Myrtle Street, Seattle

Whitehead Tye

Agreed Order: 2016

Status: Interim Action Workplan to be finalized in 2017.

Previous uses: Lumber finishing, refuse burning, and wood treating.

Current uses: Metal recycling.

Contaminants of concern: PCBs, PAHs, VOCs, pentachlorophenol, oil, metals.

Interim Action: Contaminated soil to be removed before installing stormwater pipes and treatment.

LOWER REACH



5658 W Marginal Way SW, Seattle

Duwamish Shipyard

Agreed Order: 2010

Status: Draft Remedial Investigation Report under review.

Previous uses: Shipyard—repair and maintenance of floating vessels.

Current uses: Storage of shipping containers; truck access.

Contaminants of concern: PCBs, PAHs, SVOCs, tributyl tin, dioxins, furans, oil, metals.



5900 W Marginal Way SW, Seattle

Glacier Northwest

Agreed Order: 2009

Status: Draft Remedial Investigation Report under review.

Previous uses: Manufacturing activated charcoal, resins, glues, sodium pentachlorophenate, pentachlorophenol.

Current uses: Cement storage and distribution.

Contaminants of concern: Pentachlorophenol, dioxins, metals.



PO Box 47600

Olympia, WA 98504-7600

Lower Duwamish Cleanup Sites Update



Información sobre la limpieza ambiental del Duwamish:

Si le gustaría obtener este documento en español, favor de comunicarse con Gretchen Newman al 360-407-6097 o preguntas@ecy.wa.gov.

Thông tin về công tác làm sạch môi trường Duwamish:

Nếu quý vị muốn nhận tài liệu này bằng tiếng Việt hoặc cần thêm thông tin, xin liên hệ ông Liêm Nguyễn: 360-407-6955, điện thư: Lngu461@ecy.wa.gov.

Want to get more involved with efforts to clean up the Duwamish River?

Contact the Duwamish River Cleanup Coalition/Technical Advisory Group at contact@duwamishcleanup.org, (206) 954-0218, or visit <http://duwamishcleanup.org/>